



## PATENT ABSTRACTS OF JAPAN

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## (54)HIGH-SPEED INK JET PRINTER

## (57)Abstract:

PURPOSE: To obtain a high speed and steady printing property, by a method wherein a printing head is driven by a response frequency at a high-frequency band in order to keep clear from an influence exerted by a frequency band having undesirable characteristics.

CONSTITUTION: The number of dots in a longitudinal and a lateral direction of a matrix are A and B, a space in a lateral direction is B', a printing speed is C number of letters per sec, and a driving frequency of a printing head is (f). Electric signal pulses to the printing head, including a subpulse following a main pulse are composed to one set, and each parameter is properly selected to obtain a threshold P having less fluctuation and an appropriate liquid drop limit Q. If (f), which satisfies a formula, where  $f_1$  is the minimum frequency having no appropriate liquid drop range;  $f_2$  is the maximum frequency having no appropriate

liquid drop range;  $f_{MAX}$  is an upper limit frequency of an appropriate liquid drop range of a high-frequency range; (n) is an integer and  $n2B+B'-1$ ;  $B \text{ bar} = B+B'$ , exists, the frequency (f) can be set to the maximum frequency of a working frequency.

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$$\frac{B}{B'} f_1 > 1 > \frac{B}{B'} f_2, \text{ i.e., } B \geq f_1 / (1 - f_2) \text{ and } f_1 \leq f_2 \dots$$

